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CLASSIFICATION CHANGED TO Unclassified BY AUTHORITY OF MSC letter 2/1/73 Changed by Frances N. Smith per [illegible] 2/14/73

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☆ GPO : 1966 O—797-276

CONFIDENTIAL

UNCLASSIFIED WHEN DETACHED FROM CLASSIFIED MATERIAL

03 13 17 18	CDR	We've got a lot of time.
03 13 17 23	CDR	Store all the cameras, store everything, because this burn will be a bang. How much do you need? What rate?
03 13 18 28	CMP	...
03 13 18 29	CDR	Huh?
03 13 18 34	CDR	I can't hear you.
03 13 18 36	CDR	No. Yes, I got it completed.
03 13 18 43	CDR	That long? Here.
03 13 19 46	CDR	Why don't we each talk about one thing that impressed us most out of what we saw and describe it? Okay?
03 13 19 57	CDR	How much do you have? The same?
03 13 20 20	CDR	How ... a change?
03 13 20 26	LMP	We ought to make it perfectly.
03 13 20 28	CDR	Yes, they wanted it to drag on a little bit longer, but we'll cut it off when we feel like it. Okay?
03 13 20 32	SC	...
03 13 20 43	CDR	Yes, then we could take all the lunar stuff and put it somewhere; you know, all the rocks and things - -
03 13 20 48	CMP	Yes, I got ...
03 13 20 49	CDR	- - and we'll put it all in one place and get the whole - Put all the cameras away and get the whole damn thing in shipshape.
03 13 21 02	CDR	Because now she's going to take us home!
03 13 21 13	CDR	Huh?
03 13 21 39	CDR	Let's only have the stuff out we're going to need to operate with for the burn. Here's some stuff stuck up here. There's cameras floating all over the place. Jim, fix me one of those.
03 13 21 55	CMP	...

03 13 21 58	CDR	Alright. Here comes a couple of magazines - I don't know what -
03 13 22 14	CDR	What are these?
03 13 22 25	CDR	That doesn't ... - You better put all the camera equipment away in one place.
03 13 22 29	CMP	Here we go.
03 13 23 34	CDR	This one? Huh?
03 13 23 37	CDR	No, put everything away.
03 13 23 56	CDR	Got this big 16-millimeter camera and the camera cord.
03 13 24 03	CDR	Huh?
03 13 24 06	CDR	It's about 10 minutes.
03 13 24 11	CDR	You want to tape that?
03 13 24 14	CDR	Huh?
03 13 24 19	CDR	Where do these brackets go?
03 13 24 22	CDR	Alright.
03 13 24 52	CDR	Man, I wonder how -
03 13 24 57	CDR	Huh? I wonder how in the hell it goes in here. Who took it out?
03 13 25 39	CDR	You sure this one came out of here, too, Bill?
03 13 25 42	LMP	...
03 13 25 46	CDR	Jim, where did you get this camera bracket out of?
03 13 25 49	CMP	...
03 13 25 51	CDR	They did?
03 13 25 56	CDR	Who's cutting - Somebody's closing off one of those inlets somewhere.
03 13 26 03	CDR	Is that toothpaste thing of yours going over that one, Bill?

03 13 26 09	CDR	This one - this compressor started lugging down.
03 13 26 15	CMP	What?
03 13 26 16	CDR	I said the compressor started lugging down.
03 13 27 16	CDR	Get all this junk off here, all the old P30's. There's that monocular, too. Where did it go?
03 13 27 53	CDR	Huh? Where does that go?
03 13 28 17	CDR	There's a ...
03 13 28 19	CDR	No, put them all away.
03 13 28 51	CDR	I got that one; do you want to put them on?
03 13 29 03	CMP	...
03 13 29 27	CDR	I don't know - How - how does this store, Bill? Together or separately?
03 13 29 30	LMP	Take ...
03 13 29 40	CDR	I guess that 150 - 250 millimeter comes off, and this one goes on.
03 13 30 05	LMP	Now, we'll open the ...
03 13 30 07	CDR	That goes on that other camera.
03 13 30 12	LMP	...
03 13 30 14	CMP	Okay.
03 13 30 17	CDR	Let's take that clip off that wire there, too, shall we? I don't like that.
03 13 31 54	CMP	(Coughing)
03 13 32 10	CMP	...
03 13 32 13	LMP	Flight plan.
03 13 32 17	CMP	That's it.
03 13 32 19	CDR	R3 is open. I got the tape right here.

03 13 32 36	CDR	Huh?
03 13 32 43	CDR	Bill, can we get through this place? Oops.
03 13 32 55	CDR	Did you stow the sextant bracket?
03 13 33 14	CDR	Bill? Want me to hold it? There it is.
03 13 34 00	CDR	After this ..., I'll store the ORDEAL, too.
03 13 34 08	CDR	That should be -
03 13 34 15	LMP	... send down the update ...
03 13 34 20	CDR	Huh?
03 13 34 23	CDR	Yes.
03 13 34 56	LMP	May I see that blurb - that ... thing?
03 13 34 59	CDR	The what, Bill?
03 13 35 00	LMP	The thing we're supposed to read?
03 13 35 02	CDR	Oh yes, what time is it? 85 something?
03 13 35 05	LMP	85:35.
03 13 35 07	CMP	And then ... complicated.
03 13 35 17	LMP	There you go. Why don't you get a map, Jim, so we can tell the folks what you're looking at?
03 13 35 23	LMP	Which one do you want - What do you want me to read?
03 13 35 25	CDR	The first four.
03 13 35 37	LMP	Okay.
03 13 35 39	CDR	Okay?
03 13 35 47	LMP	What time is AOS?
03 13 35 50	CDR	I don't know. It should be any time now.
03 13 36 39	LMP	I can't see it. There's so much light on here.
03 13 36 41	CMP	It's minus 63 degrees pitch, 350 degrees yaw.

03 13 37 02	LMP	I'm not getting anything. What are you going to try to - What window are you going to do it out of?
03 13 37 06	CDR	Huh?
03 13 37 09	LMP	What are you going to do it out of? This side window here, the terminator, or what?
03 13 37 10	CDR	I can't hear you.
03 13 37 11	LMP	What window are you going to do it out of?
03 13 37 13	CDR	Well, wherever we can get the high gain on. I'll point - -
03 13 37 18	LMP	We're pointed straight up in the air, now.
03 13 37 20	CDR	No, we're not. We're just about horizontal.
03 13 37 23	LMP	Oh. My visual is off.
03 13 37 27	CMP	(Singing)
03 13 3, 36	CMP	(Singing)
03 13 37 47	CDR	Probably be best out that rendezvous window there.
03 13 37 50	LMP	Yes. If you'd yaw about 30 degrees this way, you could probably pick the earth coming up over the hill.
03 13 37 53	CDR	To the right?
03 13 37 55	LMP	Yes.
03 13 37 57	CDR	Alright.
03 13 38 00	LMP	Where abouts are we?
03 13 38 02	CDR	Somewhere over the moon.
03 13 38 05	LMP	Here, we'll take it out that window over there - -
03 13 38 07	CDR	We'll have to yaw to the left, wouldn't I?
03 13 38 08	LMP	No, you'll have to yaw to the right, and - to get the rendezvous; maybe pitch up just a little bit.

03 13 38 15	CDR	Okay. It's -
03 13 38 22	LMP	It's on.
03 13 38 24	CDR	Are we getting them?
03 13 38 25	LMP	Well, it's just - The trouble is, I don't think you'd normally get it out the rendezvous window and have the high gain, too, Frank.
03 13 38 42	CMP	You tell me - -
03 13 38 44	LMP	The thing to do would be, - if you want to get the earth, to get the yaw - to yaw up and pitch up.
03 13 38 57	CDR	Try to get COMM, will you, Bill?
03 13 39 03	LMP	Okay, well, gee - I don't see it out there anywhere. Do you? The earth? I don't think we've had AOS yet.
03 13 39 14	CMP	You're going down, it says right here.
03 13 39 16	LMP	I'll know when to get them as soon as we get on an OMNI.
03 13 39 21	LMP	You'll have to pitch up, Frank; I can't get them now, on - on the -
03 13 39 24	CDR	Huh?
03 13 39 25	LMP	You'll have to pitch up; I can't get them on the high gain there. Pitch or - or yaw - pitch up or yaw and/or yaw right.
03 13 39 34	CDR	I'll do both.
03 13 39 35	LMP	Okay.
03 13 39 52	CDR	How's that steam pressure, Bill?
03 13 39 53	LMP	Good.
03 13 39 54	CMP	... Frank.
03 13 39 55	LMP	It isn't even boiling yet.
03 13 40 02	LMP	Yes, we just started.
03 13 40 09	LMP	Where's the pad book? Doesn't it have the - -

03 13 40 11	CDR	Here it comes!
03 13 40 12	LMP	Okay.
03 13 40 13	CDR	Oh boy!
03 13 40 14	CMP	Get a good shot of her?
03 13 40 17	CDR	Yes, see it?
03 13 40 21	CMP	Well, keep the camera there. Keep the camera.
03 13 40 23	LMP	Here it comes. Here it comes. But you're not on yet.
03 13 40 31	LMP	You got it - you got to do something.
03 13 40 37	LMP	Pitch up or yaw -
03 13 40 39	CDR	Yaw right?
03 13 40 41	LMP	Yaw right.
03 13 40 45	CMP	Oh, Jesus.
03 13 40 46	CDR	Oh, I get it off this camera - window c[illegible] here.
03 13 40 51	LMP	Okay.
03 13 40 54	CMP	Houston, Apollo 8.
03 13 40 58	LMP	Roll her a little bit. Roll her a little bit to the - to the right.
03 13 41 06	CMP	Here, you want me to fly it just to come a - -
03 13 41 07	LMP	That one's got it, the roll. Yes, yes. It's the roll that's got it. Roll right, if you can.
03 13 41 12	CMP	We're rolling.
03 13 41 18	LMP	Come on, gang.
03 13 41 25	CMP	We're going to radial out. Are we - You got her coming up? You see her, Frank?
03 13 41 33	CDR	Yes, it's beautiful.
03 13 41 39	LMP	You got to roll.

03 13 41 41	CMP	It's rolling.
03 13 41 43	CDR	Watch the gimbal lock.
03 13 41 45	CMP	Yes.
03 13 42 00	LMP	You got to roll - -
03 13 42 01	CMP	Right.
03 13 42 02	LMP	- - and yaw.
03 13 42 05	CMP	We're over 45 degrees in yaw right now.
03 13 42 10	CMP	We're still yawing, and we're still rolling.
03 13 42 12	LMP	Where is it, Frank? Point to it.
03 13 42 13	CDR	I'm pointing right at it with the camera.
03 13 42 15	LMP	Then why in the hell we're not getting it? Okay.
03 13 42 18	CDR	Should be getting it.
03 13 42 20	LMP	Try again here.
03 13 42 36	CDR	Got it?
03 13 42 37	CMP	There, you got it; you're on.
03 13 42 46	LMP	There you got it. It was in some kind of a gimbal lock-up there.
03 13 42 51	CDR	Try - try it - call them.
03 13 42 53	LMP	Houston - -
03 13 42 54	CMP	Houston - Go ahead, go ahead.
03 13 42 56	LMP	Houston, [illegible]. Over.
03 13 42 58	CC	Loud and [illegible] and an initial look at your systems are good. Over.
03 13 43 01	LMP	Roger. We've got the T - -
03 13 43 02	CC	We've got a picture, Apollo 8.

03 13 43 03	LMP	Roger, we've got the TV - -
03 13 43 04	CMP	Roll - roll left.
03 13 43 05	LMP	Huh?
03 13 43 06	CDR	Roll left a little, can you?
03 13 43 07	CMP	Yes.
03 13 43 11	CDR	Did he say it was a good picture?
03 13 43 12	LMP	How's the picture look, Houston?
03 13 43 17	CC	Loud and clear.
03 13 43 19	LMP	The TV look okay?
03 13 43 24	CC	Looks very good.
03 13 43 26	CMP	Welcome from the moon, Houston -
03 13 43 28	CDR	And the world.
03 13 43 34	CC	Thank you.
03 13 43 40	CMP	Okay, why don't you describe what - Where abouts are we here anyway?
03 13 43 45	CDR	Tell them - this camera's just the thing. Tell them what we're going to do.
03 13 43 54	CMP	You got the - got the thingamajig? Want me to roll a little bit?
03 13 44 00	LMP	Houston, you're seeing a view of the earth, taken over the lunar horizon. We're going to follow the track until the terminator, where we will turn the spacecraft and give you a view of the long shadowed terrain at the terminator, which should come in quite well in the TV.
03 13 44 25	CMP	We don't know whether you can see it from the TV screen, but the moon is nothing but a milky white, completely void.
03 13 44 35	CDR	You're going to have to show it out that picture now; I've lost it.
03 13 44 37	LMP	Okay.

03 13 44 38	CMP	We're changing the cameras to the other window now.
03 13 44 41	LMP	Can you pitch down now and - -
03 13 44 44	CDR	Pitch down.
03 13 44 46	LMP	- - and let me get out the rendezvous window and yaw, maybe?
03 13 44 50	CMP	Which way do you want to yaw?
03 13 44 52	LMP	Yaw toward me and away from - away from the earth.
03 13 44 55	CDR	This is Apollo 8, coming to you live from the moon. We've had to switch the TV camera now; we've showed you first a view of earth as we've been watching it for the past 16 hours. Now we're switching so that we can show you the moon that we've been flying over at 60 miles altitude for the last 16 hours. Bill Anders, Jim Lovell, and myself have spent the day before Christmas up here, doing experiments, taking pictures, and firing our spacecraft engines to maneuver around. What we'll do now is follow the trail that we've been following all day, and take you on to a lunar sunset.
03 13 45 43	CDR	The moon is a different thing to each one of us. I think that each one of - each one carries his own impressions of what - of what he's seen today. I know my own impression is that it's a vast, lonely, forbidding-type existence or expanse of nothing; it looks rather like clouds and clouds of pumice stone.
03 13 46 09	LMP	Can't you get it down? I can't see it, Jim.
03 13 46 10	CDR	And it certainly would not appear to be a very - -
03 13 46 12	LMP	... 30 degrees.
03 13 46 13	CDR	- - inviting place to live or work. Jim, what have you thought most about?
03 13 46 21	CMP	Well, Frank, my thoughts were very similar; the vast loneliness up here of the moon is awe-inspiring, and it makes you realize just what you have back there on earth. The earth from here is a grand oasis in the big vastness of space.
03 13 46 38	CDR	Bill, what do you think?

03 13 46 40	LMP	I think the thing that impressed me the most was the lunar sunrises and sunsets. These, in particular, bring out the stark nature of the terrain, and the long shadows really bring out the relief that is here and hard to see in this very bright surface that we're going over right now.
03 13 47 04	CDR	Describe - That's not color, Bill - Describe some of the physical features of what you're showing the people.
03 13 47 10	LMP	I'm changing to the other window now.
03 13 47 17	LMP	What sea are we coming up to? Smith's Sea?
03 13 47 20	CMP	Yes. Smyth's - Smyth's Sea.
03 13 47 23	LMP	We are now coming onto Smyth's Sea, a small mare region covered with a dark material. There is a fresh bright impact crater on the edge towards us, and a mountain range on the other side.
03 13 47 43	CMP	Pyrenees. Okay, hold it right there. Hold it.
03 13 47 45	LMP	These mountains are the Pyrenees. Is that right?
03 13 47 49	CMP	No, I take that back; it's ...
03 13 47 50	CC	Apollo 8, we're not receiving modulation on the signals. We do have sync.
03 13 47 55	CDR	Are you reading us, Apollo - Houston? Maybe it's turned OFF, Bill.
03 13 48 00	CC	Apollo 8, we're reading you loud and clear, but no picture - -
03 13 48 03	CDR	Somehow it got OFF again.
03 13 48 04	LMP	What?
03 13 48 05	CMP	Roger. We understand. Take a look now.
03 13 48 06	LMP	It's ON now.
03 13 48 07	CDR	How about now, Apollo?

03 13 48 11	LMP	Yaw it if you can.
03 13 48 12	CC	Loud and clear.
03 13 48 13	CDR	Right or left?
03 13 48 15	LMP	Right.
03 13 48 17	CDR	Okay.
03 13 48 18	LMP	Roll.
03 13 48 19	CC	Good picture.
03 13 48 21	CDR	Right.
03 13 48 22	CMP	What you're seeing as we cross Smyth's Sea - are the craters Kästner and Gilbert.
03 13 48 30	CDR	Tell them there's a very bright impact crater now.
03 13 48 32	CMP	And what we have noticed especially that you cannot see from the earth are the small bright impact craters that dominate the lunar surface.
03 13 48 44	CDR	How's that now, Bill?
03 13 48 45	LMP	Yes, the more right roll, the better.
03 13 48 47	CDR	Alright, more right roll.
03 13 48 53	CDR	Can you show the horizon?
03 13 48 54	LMP	That's what I'm on.
03 13 48 57	CDR	Describe the horizon.
03 13 49 01	LMP	The horizon here is very, very stark.
03 13 49 03	CDR	I can't even see it is the trouble.
03 13 49 04	LMP	The sky is pitch black, and the earth, or the moon rather, excuse me, is quite light, and the contrast between the sky and the moon is a vivid dark line.
03 13 49 18	LMP	Coming into view of the camera now are some interesting old double-ring craters, some interesting features that are quite common in the mare region and have been filled

by some material, the same consistency of the [illegible]are and same color; here are three or four of these interesting features. Further on the horizon, you see the Pyr - These are the Pyrenees, aren't they? - -

03 13 49 46 CMP After the Sea of Fertility; first, we're going over the Sea of Crises.

03 13 49 47 LMP What are these mountains?

03 13 49 49 CMP Well, there's the Foaming Sea.

03 13 49 52 LMP Okay. The mountains coming up now are heavily impacted with numerous craters whose central peaks you can see in many of the larger ones.

03 13 50 06 CMP Actually, I think the best way to describe this area is a vastness of black and white, absolutely no color.

03 13 50 20 LMP The sky up here is also a rather forbidding, foreboding expanse of blackness, with no stars visible when we're flying over the ear - over the moon in daylight.

03 13 50 33 CMP Are we coming up near our - near our target area?

03 13 50 38 CDR No, I don't think - we've got quite a ways to go.

03 13 50 47 CMP Do you need this anymore? I'll find out where we ar[illegible] here in a hurry.

03 13 50 50 LMP You can see by the numerous craters - -

03 13 50 54 CDR Yes, you better leave it on there.

03 13 50 55 LMP - - that this planet has been bombarded through the eons with numerous small asteroids and meteoroids, pockmarking the surface every square inch.

03 13 51 08 CMP And one of the amazing features of the surface is the roundness of most of the craters. It seems that most of them have a round, mound-type appearance instead of sharp, jagged rocks.

03 13 51 20 LMP Only the very newest features have any sharp definition to them, and eventually they get eroded down by the constant bombardment of small meteorites.

03 13 51 33 CMP You hope.

03 13 51 37	LMP	Okay, there's two big craters coming up on the right. I don't know which ones they are.
03 13 51 43	CMP	Where? What does it look like here?
03 13 51 44	LMP	How's the picture now, Houston?
03 13 51 50	CDR	Don't tell me we've broken lock.
03 13 51 52	LMP	Houston, are you reading us?
03 13 51 54	CC	Roger. Reading you loud and clear, and the picture looks real fine.
03 13 51 56	CDR	Good.
03 13 51 57	LMP	Thank you.
03 13 52 02	LMP	Can you see the two large craters to the - just to the right of our track, Houston?
03 13 52 16	CC	Affirmative.
03 13 52 20	CMP	That might be Kästner and Gilbert, although I'm not too sure. I can't see out.
03 13 52 25	LMP	It's hard to get me and the camera in the window at the same time (laughter).
03 13 52 28	CMP	Could I look out here just a second just to find out where we are? Well, we're still over the - Okay, we're still over the east side. Here comes Smyth's Sea now
03 13 52 49	LMP	The very bright features you see are the new impact craters and the longer a crater has been on the surface of the moon, why, the more mottled and subdued it becomes.
03 13 53 04	CDR	Hey, Bill, you're not talking to geologists.
03 13 53 07	LMP	What do you want me to say?
03 13 53 09	CMP	Here's - here's where we are.
03 13 53 11	LMP	Okay. Go ahead - -
03 13 53 12	CMP	Smyth's Sea - -
03 13 53 13	LMP	You read it off.

03 13 53 18	CMP	Excuse me a second.
03 13 53 26	CC	Apollo 8, we've apparently lost your voice; the picture is still good.
03 13 53 30	LMP	Roger.
03 13 53 36	CMP	Houston, we're passing over the area that's just to the east of Smyth's Sea now in checking our charts. Smyth's Sea is coming up in a few minutes.
03 13 53 52	LMP	... that gimbal lock back.
03 13 53 56	CMP	Yes, watch out for gimbal lock, please.
03 13 54 00	CDR	How are you doing, Bill? Can you see it?
03 13 54 02	LMP	Yes, that's good. I can't see much out here with this camera in the way.
03 13 54 13	CDR	Huh? Bill.
03 13 54 14	CC	Apollo 8, if you go to POO and , we'll uplink some information.
03 13 54 20	LMP	(Laughter) We're not over Smyth's Sea.
03 13 54 35	CDR	Boy, that baby really took some ..., didn't it?
03 13 54 41	LMP	We are now coming up towards the terminator, and I hope that soon we'll be able to show you the varying contrasts of light as we go into the darkness.
03 13 54 51	CDR	Okay.
03 13 54 53	CMP	Well, the terminator's - -
03 13 54 54	CDR	Houston, we're - we're in POO, and you have the computer.
03 13 54 56	CMP	- - is where we're ending.
03 13 55 02	CDR	Don't stop, Bill, (laughter) I didn't mean to cut you off.
03 13 55 05	LMP	We'll have another thought soon - there are a lot of holes down there.

03 13 55 14	LMP	We're now approaching a series of small impact craters. There is a dark area between us and them which could possibly - could be a - old lava flow.
03 13 55 37	LMP	We going sideways?
03 13 55 38	CDR/CMP	Yes.
03 13 55 42	CMP	Is that crater on the backside called Tchaikovsky - Kil - Kil - Kilkowsky [Tsiolkovsky] or something like that?
03 13 55 50	LMP	It's an old Russian name, isn't it? That's the Goddard of - -
03 13 55 54	CMP	Yes.
03 13 55 56	CDR	You can see the large mountains on the horizon now ahead of the spacecraft to the north of our track.
03 13 56 07	CMP	Okay. ... his camera over there ...
03 13 56 08	LMP	Are those the Pyrenees?
03 13 56 14	CMP	I'm checking that. No, we - think maybe - No, there's a bright crater right there.
03 13 56 23	LMP	The intensity of the sun's reflection in this area - -
03 13 56 24	CMP	Unless we could have rotated off here.
03 13 56 25	LMP	- - makes it difficult for us to distinguish the features we see on the surface, and I suppose it's even harder on the television, but as we approach the terminator and the shadows become longer, you'll see a marked change.
03 13 56 48	CMP	I don't know where we are now because we yawed off so much.
03 13 56 51	LMP	We're going sideways. Frank's window would be the best one to look - Do you see the terminator coming yet, Frank?
03 13 56 55	CMP	Yes.
03 13 56 56	CDR	I don't know which way it is. I - I didn't look to see which way we were going.
03 13 57 00	LMP	There's a very dark crater in the filling material of this valley in front of us now. It's rather unusual

in that it is sharply defined, yet it's dark all over its interior walls, whereas most new-looking craters are a very bright interior.

03 13 57 37 LMP — A small impact crater in front of us now in a little mare, well defined and quite new, and another one approaching. The spacecraft is facing north from our track. We are going sideways to our left.

03 13 57 57 LMP — What is that mare up there now, that big one?

03 13 58 00 CMP — Straight ahead?

03 13 58 01 LMP — Yes.

03 13 58 03 CMP — North? Okay, let me check it here. Well, there's the Sea of Crises coming up - Oh, that big one is the Sea of Crises over there.

03 13 58 10 LMP — We are now - -

03 13 58 11 CMP — I made a mistake with the -

03 13 58 12 LMP — - - seeing the Sea of Crises coming over the horizon. What's the name of that crater right between us and it?

03 13 58 16 CMP — Okay, I'll get it for you right now. That's - Condorcet Crater.

03 13 58 28 LMP — Condorcet?

03 13 58 30 CMP — Let me see just to make sure. Are we under a sea right now, Smyth's Sea? That's the Condorcet Crater. Condorcet.

03 13 58 36 LMP — And we believe the crater, the large dark crater between the spacecraft and the Sea of Crises is Condorcet Crater. The Sea of Crises is amazingly smooth as far as the horizon, past this rather rough mountainous region in front of the spacecraft.

03 13 58 54 CMP — How are you doing? ...

03 13 58 56 CDR — ...

03 13 59 11 CC — Apollo 8, we are through with the computer. You can go back to BLOCK, and it looks like we are getting a lot of reflection off your window now.

03 13 59 20	CDR	You want me to try it out this window?
03 13 59 21	LMP	Yes, that'll be better. Roger; we'll switch windows.
03 13 59 24	CDR	I'll have to watch out for gimbal lock this way.
03 13 59 29	CDR	Is it still ON, Bill?
03 13 59 31	LMP	Yes. Be careful when you grab that handle, because apparently you can turn it OFF.
03 13 59 35	CDR	Ask him how that is.
03 13 59 38	LMP	How's that look now, Ken?
03 13 59 42	CC	Real fine.
03 13 59 45	LMP	Okay, you'll have to - ... I can't see where you are, Frank.
03 13 59 58	CDR	I wonder what - Oh, hell.
03 14 00 02	LMP	Okay, what is the problem here? Okay.
03 14 00 11	CDR	Pitch up.
03 14 00 12	CMP	I can't pitch up too much.
03 14 00 13	LMP	Can you roll? Don't pitch up, just roll - You can roll - -
03 14 00 18	CMP	Right?
03 14 00 19	LMP	Roll right, and you can yaw - yaw left, - Get your right gimbal off a little bit. Roll right and yaw left.
03 14 00 26	CMP	Okay, I'm doing it.
03 14 00 27	CC	Apollo 8, can you tell us which window you are looking out? And there's a large crater, looks like it is sticking up in the upper right-hand corner of our picture. Can you identify that one?
03 14 00 35	LMP	Alright, you better - We're going to lose it if you don't move over.
03 14 00 41	CDR	Roger, we're just about to lose lock here. That's why we're slowing up a little bit. You're alright.

03 14 00 48	LMP	We see the Sea of Crises in front of us now, and we're looking out the left-hand rendezvous window.
03 14 00 55	CMP	That might be - Firmicus.
03 14 00 59	CDR	What's the name of the crater out in the Sea of Crises? That's probably the one they're talking about.
03 14 01 02	CMP	Picard is right out there on the right-hand - left-hand side of it. We - -
03 14 01 06	CDR	How are we going to keep lock now, Bill?
03 14 01 08	LMP	Okay, keep - the thing to do is to - is to roll right - is the best thing to do.
03 14 01 16	CMP	Okay, I'm rolling right. I've got - I'm in there right now - -
03 14 01 20	LMP	Well, we're not able - That's their problem.
03 14 01 23	CDR	Their problem?
03 14 01 24	CMP	Tell them that's Picard.
03 14 01 26	LMP	Houston, how you reading us now?
03 14 01 33	LMP	The crater you see on the horizon in the Sea of Cri - How are you reading us, Houston?
03 14 01 49	CC	Loud and clear, Apollo 8, and we have a picture that's good.
03 14 01 52	LMP	Roger; we're getting a lot of static. The Sea of Crises is in front of us on the horizon, and the dark crater Picard can be seen in the middle. We're now approaching the moon sunrise or the spacecraft sunset. This is an area that the sun has just recently come up on the moon.
03 14 02 23	LMP	What's this - what sea are we over now, Jim?
03 14 02 28	CMP	This is part of the Sea of - -
03 14 02 29	LMP	Don't - don't - You better - you better yaw a little bit to the left. You're going to get the sun on Frank's window now.
03 14 02 36	CDR	Yes, yaw left.

03 14 02 39	CMP	Do you want me to still roll?
03 14 02 40	LMP	See the mare we're over now has a mottled look about it,
03 14 02 45	CMP	The Sea of Fertility we're on.
03 14 02 46	LMP	- - but not very heavily cratered, so it must be relativ new.
03 14 02 50	CMP	We're over the Sea of Fertility.
03 14 02 51	LMP	This is the Sea of Fertility, and we're coming up on a large crater, the delta-rim variety. It has a strange circular crack pattern around the middle of it.
03 14 03 14	LMP	How many miles across is that crater?
03 14 03 17	CMP	Is that - You're looking at Taruntius?
03 14 03 20	LMP	Yes.
03 14 03 21	CMP	Taruntius, probably.
03 14 03 24	LMP	Yes, how many - Just give me a guess. 20 miles? 30 mil
03 14 03 29	CMP	Must be 30 or 40 miles.
03 14 03 30	LMP	The crater that you're seeing now is about 30 or 40 mile: across.
03 14 03 37	LMP	Ro - You better - You better roll left.
03 14 03 40	CMP	Roll left?
03 14 03 41	LMP	Yes.
03 14 03 44	CDR	Yaw left, too. I see the - Here's earth in our backgrou
03 14 03 49	CMP	Okay, I'm rolling left.
03 14 03 51	LMP	How's your picture quality, Houston?
03 14 03 56	CC	It's phenomenal.
03 14 03 58	LMP	There's an interesting rille directly in front of the spacecraft now, running along the edge of a small mountain, rather sinuous shape, with right-angle turns.

		What - what - Keep rolling - keep rolling - You're - Roll it left, Jim.
03 14 04 22	CMP	Roll left, okay.
03 14 04 27	CMP	This area just to the west of the Sea of Crises is called the Marsh of Sleep, and to the west of that is the Sea of Tranquility.
03 14 04 38	LMP	Can you see the fracture patterns going across the mare in front of us now, Houston?
03 14 04 46	CDR	Now, you better stop the roll.
03 14 04 47	CC	That doesn't quite stand out.
03 14 04 48	LMP	Yes.
03 14 04 49	CMP	Cut the roll.
03 14 04 51	LMP	Roger; it's a series of cracks, faults across the middle of the mare. They drop down in about three steps to the south. The parallel fault pattern to the north has a drop down in the center. I think you may be going too far now, Jim.
03 14 05 16	CMP	Too far which way?
03 14 05 17	LMP	Yawing a little bit too far left.
03 14 05 19	CMP	Yawing too far left?
03 14 05 20	LMP	Yes, why don't you yaw right a little bit?
03 14 05 22	CDR	Yaw right a little bit.
03 14 05 23	LMP	Yes, we want to -
03 14 05 24	CDR	Yaw right.
03 14 05 25	LMP	Or else, you may just - If you want to keep going, I'll put it out this window now.
03 14 05 28	CDR	That's fine on there - that's fine. Who do you want to give it to?
03 14 05 32	CMP	Now, that crater right out there is - that nice round one is -

03 14 05 39	LMP	Well, they can - Frank is at the other one.
03 14 05 42	CDR	I hope all of you back on earth can see what we mean when we say it's a rather foreboding horizon. A rather - -
03 14 05 49	LMP	Stark, maybe.
03 14 05 50	CDR	Stark and unappetizing sort of place - -
03 14 05 53	LMP	Is this our landing site we're going over now?
03 14 05 55	CMP	Yes, this is our landing site right down here.
03 14 05 57	LMP	We're now going over our - -
03 14 05 58	CMP	Approaching our landing site.
03 14 05 59	LMP	Approaching one of our future landing sites - -
03 14 06 00	CMP	Right now.
03 14 06 01	LMP	- - selected in this smooth region to - -
03 14 06 05	CMP	Called the Sea of Tranquility.
03 14 06 06	LMP	- - called the Sea of Tranquility, smooth in order to make it easy for the initial landing attempt in order to preclude having to dodge mountains. Now you can see the long shadows of the lunar sun - sunrise.
03 14 06 26	CDR	Hey, why don't we start reading that thing, and that would be a good place to end it.
03 14 06 34	CMP	No, we've got to go into it very nicely. Why don't we - as we go into sunset - -
03 14 06 36	LMP	Right.
03 14 06 37	CMP	- - or is it sunrise? This is sunrise, yes. We're approaching lunar sunrise.
03 14 06 39	LMP	We are now approaching lunar sunrise, and for all the people back on earth, the crew of Apollo 8 has a message that we would like to send to you: "In the beginning, God created the heaven and the earth; and the earth was without form and void, and darkness was upon the face of the deep; and the spirit of God moved upon the face of the waters. And God said, 'Let there

be light,' and there was light. And God saw the light, that it was good. And God divided the light from the darkness."

03 14 07 24 CMP You got it, Frank.

03 14 07 25 CDR No, it's your ...

03 14 07 28 CMP "And God called the light Day, and the darkness He called Night. And the evening and the morning were the first day. And God said, 'Let there be a firmament in the midst of the waters, and let it divide the waters from the waters.' And God made the firmament and divided the waters which were under the firmament and the waters which were above the firmament, and it was so. And God called the firmament Heaven. And the evening and the morning were the second day."

03 14 07 59 CDR Can you hold this camera?

03 14 08 00 LMP You want to pass it over here, Jim?

03 14 08 02 CDR No, it's perfect right where it is.

03 14 08 03 LMP Okay.

03 14 08 06 CDR "And God said, 'Let the waters under the heaven be gathered together into one place and let the dry land appear,' and it was so. And God called the dry land Earth, and the gathering together of the waters called these Seas. And God saw that it was good." And from the crew of Apollo 8, we close with good night, good luck, a merry Christmas, and God bless all of you, all of you on the good earth.

03 14 08 39 CMP That's it.

03 14 08 40 CDR Don't say anymore now.

03 14 08 41 LMP I just turned it OFF. You want it ON again?

03 14 08 42 CDR No, leave it OFF. Great! Great!

03 14 08 43 LMP OFF?

03 14 08 44 CDR Yes.

03 14 08 45 LMP Okay.

03 14 08 46	CMP	Camera's OFF?
03 14 08 47	LMP	Yes.
03 14 08 49	CDR	Hey, how can you beat that? Gees, we just went into the terminator right in time.
03 14 08 54	CMP	Okay, let's get the spacecraft back in even keel again. Here, here's this, Frank.
03 14 09 06	CDR	Alright, let's get the flight plan out here.
03 14 09 09	CDR	We've got to get it.
03 14 09 11	CMP	Okay.
03 14 09 21	LMP	Whew! Pretty impressive out there.
03 14 09 22	CDR	Boy, it sure is.
03 14 09 37	CDR	Okay, men.
03 14 09 39	CMP	It's 86 hours.
03 14 09 44	CDR	Houston, how do you read Apollo 8?
03 14 09 53	CDR	Don't tell me they didn't hear us.
03 14 09 58	CDR	Houston, Apollo 8.
03 14 10 03	CC	Apollo 8, reading you loud and clear.
03 14 10 05	CDR	Roger. Are we off the air now?
03 14 10 18	LMP	Why don't you just roll over to the right, Frank, and then you can -
03 14 10 22	CC	Affirmative, Apollo 8. Go ahead.
03 14 10 25	LMP	Did you read everything that we had to say there?
03 14 10 30	CC	Loud and clear; thank you for a real good show.
03 14 10 33	LMP	Okay. Now, Ken, we'd like to get all squared away for TEI here. Can you give us some good words like you promised?

ten hours of the air [illegible] here

↑ (top 58 p 4)

03 14 10 43	CC	Yes, sir. I have a maneuver pad. I think we would like to start by dumping the tape. If we can have that, I have your - -
03 14 10 50	CMP	You want me to get that, or -
03 14 10 51	CC	- - TEI 10 maneuver pad, and then we will run through a systems brief.
03 14 10 57	CDR	I understand this is the maneuver pad that we will use for TEI. Is that correct?
03 14 11 09	CDR	And you've got the tape, Houston.
03 14 11 16	CMP	Ready to copy, Ken.
03 14 11 21	CC	Roger. TEI 10, SPS G&N: 45597, minus 040 - -
03 14 38 36	CDR	Thank you.
03 14 38 45	CMP	(Singing)
03 14 39 14	LMP	Do you still have the ...?
03 14 39 17	CDR	I'll get it afterwards, Bill.
03 14 39 21	CMP	That temporary storage bag, Bill, is located - Yes, it's up here.
03 14 39 28	CMP	I got trash in that temporary storage bag I'm leaving there.
03 14 39 34	LMP	Okay.
03 14 39 38	CMP	It stinks to high heaven.
03 14 39 40	CDR	All that urine always stinks real bad, too.
03 14 39 52	CDR	What was the time for the REV before?
03 14 39 55	LMP	85:17.
03 14 39 59	CDR	No, I don't know what day it is. This is day 4. No, hell; eat it - it doesn't matter. Eat any one you want.
03 14 40 11	CMP	87:19.